

Fall 2022, Empirical Project

Requirements:

1. *Due on last instruction day of the quarter. Both your TA and I will grade your essay. The average will be the score for your empirical project. There is no regrading of the empirical project.*
2. *Use the provided EPDATA_F2022.dta dataset*
3. *Use Stata to analyze the provided dataset.*
4. *Summarize your results in an essay. Describe: your question(s), your data (e.g., show features of the variables of the full sample or across different subsamples using summary statistics and figures), your regression models, your estimates with standard errors (in tables), and the answers to your questions. Remember to interpret your regression results carefully. Pay attention to both statistical significance and economic significance.*
5. *The essay shall be no more than 10 pages long (double spaced time new roman font size 12). Be sure not to include unnecessary Stata outputs in your report. Use equations and make your own tables (not Stata output tables) to summarize your regression results.*
6. *Submit your Stata log file together with the report. Make sure that your results could be replicated by the commands in you log file.*
7. *Keep in mind that this is an essay for an econometrics class. Asking the right question is important. But demonstrating that you know what econometrics models to use and how to **properly interpret** the regression and post-regression testing results is important as well.*
8. *Run your essay through some online grammar editing website before submission. Although we won't be picky in language and grammar, well-written papers generally make better impressions.*

Background of the Stata data file

Prior to 1997, Churchill County in Nevada had no history of pediatric leukemia (cancer of the body's blood-forming tissues). In both years of 1997 and 1999, one child was diagnosed of leukemia. But since a location with the population of Churchill County should expect to see one case of pediatric leukemia every five years (by statistics from the American Cancer Society), little attention was paid to Churchill County before 2000. However, when in 2000, 8 more children were diagnosed of leukemia and then an additional 4 cases in 2001, the local residents became very concerned. The concern intensified when a joint investigation by the Nevada Health Department and the U.S. Centers for Disease Control had been unable to determine the cause.

We have a pooled cross-sectional dataset of 10,204 house sales between 1990 and 2002 in both Churchill and a nearby county Lyon, which is similar to Churchill in many aspects.

Variables:

| | |
|------------------|---|
| <i>county</i> | <i>=1 if Churchill County =0 if Lyon County, which is a nearby county similar to Churchill in many aspects.</i> |
| <i>year</i> | <i>Year of Sale; 1990–2002</i> |
| <i>sales</i> | <i>Nominal Sale Price of the Property in \$</i> |
| <i>acres</i> | <i>Lot Size in Acres</i> |
| <i>sqft</i> | <i>House Interior Square Footage</i> |
| <i>age</i> | <i>Building Age in Years</i> |
| <i>realsales</i> | <i>Inflation-adjusted Sale Prices in dollars</i> |
| <i>cases</i> | <i>The Cumulative Number of Pediatric Leukemia Cases in the County at the Time of Sale</i> |
| <i>condition</i> | <i>A Score Assigned by The Assessor At the Time of Sale to Reflect the Overall Condition of the Property (note this last variable has missing values)</i> |

How to Get Started?

This data file includes a lot of information. You don't need to use all of it. You could start with data in the 90s before the up-pick in pediatric leukemia to model the house price. You could also start with looking at aggregate trends, such as how the average house price in Churchill fall along with the up-pick in pediatric leukemia cases and compare the trends with Lyon. Then, you can start thinking about how to use the pooled cross-sectional models we learned in class to carry out the rest of the data analysis.

Disclaimer:

This dataset is downloaded from a published article and cleaned for the purpose of ECN 140. If you would like to use this dataset for other purposes, please email me after the quarter and I will let you know the proper reference.